

DETAILED ACTION

1. The Applicants' preliminary amendment filed January 9, 2008 is acknowledged. Claims 1-10 are deleted. Claims 11-21 are added. Now, Claims 11-21 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Examiner is not able to find the basis of **alkylene** glycols in general.

(Emphasis added)

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 20 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claim 21-24 of copending Application No.10/595,035. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons: Claims 21-24 of the copending Application is directed to an elastomer composition or a siloxane elastomer composition containing phosphonate functional groups, which obviously read on the resin of the present invention.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 11, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Mohr (US 4 772 408).

Mohr discloses an antifreeze composition comprising a **phosphonate silane** represented by the formula described in col. 4, lines 40-44. Notably, a crude phosphonate silane can be employed. (col. 4, lines 11-56, col. 10, lines 6-28 and Examples) The structure of the phosphonate silane is further elaborated in col. 7, line 13 to col. 8, line 50. The antifreeze contains **ethylene glycol**. (Table IV)

8. Claims 11 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fekete (US 3 019 248).

Fekete discloses a process for preparing a **functionalized organopolysiloxane resin** by hydrolysis-condensation of a precursor silane compound represented by the formula described in col. 6, lines 42-43 in the presence of other hydrolyzable silanes. The R'' and R''' can be **methylene** and alkoxy radicals, respectively. (col. 5, lines 5-65, col. 6, line 28 to col. 7, line 23 and Examples)

9. Claims 11-12, 17-19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Oppenlaender (US 5 064 552).

Oppenlaender discloses an antifreeze composition comprising a **phosphonate silane** represented by the formula (IV) where Y can be methylene. (col. 1, line 64 to col. 3, line 24) The antifreeze contains **ethylene glycol**. (col. 6, lines 15-40) The phosphonate silane can be prepared by the reaction of **trialkyl phosphate** and **haloalkyltrialkoxysilane**. Oppenlaender Pike does not explicitly mention the absence of a solvent or the pressure under which the reaction is performed. Thus, the reaction is conventionally carried out without a solvent and under 1 bar (i.e., about 1 atm).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohr in view of Pike (US 3 122 581).

For Claims 12-14 and 17, Mohr discloses an antifreeze composition, *supra*, which is incorporated herein by reference. The phosphonate silane can be synthesized by **known techniques**. (col. 9, lines 16-24) Mohr is silent on the claimed method for preparing the phosphonate silane. However, Pike teaches phosphonate silanes are obtained by a **metathetical reaction** in the absence of a solvent as illustrated in col. 6, lines 43 to col. 7, line 49 and Example 18, etc. The motivation is to afford a phosphonate silane. Therefore, it would have been obvious to utilize the metathetical reaction to prepare Mohr's phosphonate silane with expected success. For Claims 15-16, Pike teaches that a metathetical reaction

can be carried out with an **excess amount** of the silane. (col. 7, lines 23-49) Pike is silent on the extent of the excess amount set forth in the instant claim. However, the extent of the excess amount of the silane will affect the completeness of the reaction in terms of the trialkylphosphite conversion. In other words, the extent of the excess amount is a Result-Effective variable. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to perform the metathetical reaction with whatever extent of excess amount through routine experimentation in order to achieve the completeness of the reaction. Especially, Applicants do not show the criticality of the extent of excess amount. See MPEP 2144.05 (II). For Claim 18, Pike does not explicitly mention the pressure under which the reaction is performed. Thus, the reaction is conventionally carried out under 1 bar (i.e., about 1 atm).

12. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oppenlaender.

Oppenlaender discloses an antifreeze composition comprising a phosphonate silane, *supra*, which is incorporated herein by reference.

For Claims 13-14, Oppenlaender is silent on the claimed reaction temperature at which the phosphonate silane is prepared. However, the reaction

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temperature will affect the reaction rate. In other words, the temperature is a Result-Effective variable. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the reaction at whatever temperature through routine experimentation in order to achieve a desired reaction rate. Especially, Applicants do not show the criticality of the reaction temperature. See MPEP 2144.05 (II). For Claims 15-16, Oppenlaender is silent on the extent of the excess amount set forth in the instant claim. However, the extent of the excess amount of the silane will affect the completeness of the reaction in terms of the trialkylphosphite conversion. In other words, the extent of the excess amount is a Result-Effective variable. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to perform the reaction with whatever extent of excess amount through routine experimentation in order to achieve the completeness of the reaction. Especially, Applicants do not show the criticality of the extent of excess amount. See MPEP 2144.05 (II).

13. The “X” references, US 4 676 919 and US 3 869 340, cited in the international search report are not relied upon because of the following reason:

The above two references are not any better than those applied.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck, can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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June 4, 2008

/Kuo-Liang Peng/

Primary Examiner, Art Unit 1796